

# Summary of Survey 2 Results

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KANKAKEE (REGION 2)

*Objective of Survey 2: To inform the status of specific threats and importance of various conservation actions for **habitats** within individual **planning regions** in Indiana (Elements 3 and 4)*

## Survey About Threats to and Conservation Needs for Fish and Wildlife Habitats in Indiana

— In Support of the 2015 Indiana State Wildlife Action Plan—



## *Flow of Survey 2:*

1. Introduction
2. Planning region and habitat selection
3. Status and trends in habitat
4. Threats and trends of threats to habitats
5. Conservation actions for habitats
6. Relative ranking of conservation actions in each planning region
7. Organizational adaptation and evaluation
8. Additional Comments

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# Survey 2 Participation Rates

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Sent online to directly to 972 conservation professionals, stakeholders, species experts, property managers, etc.

“Open” link provided for other individuals to participate

Recorded 362 full and partial responses

- 285 direct distribution
- 77 open link

	%	N
Great Lakes (Region 1)	30.1%	87
Kankakee (Region 2)	21.8%	63
Corn Belt (Region 3)	43.9%	127
Valleys and Hills (Region 4)	21.1%	61
Interior Plateau (Region 5)	27.7%	80
Drift Plains (Region 6)	18.7%	54
None of these	7.3%	21

# Major Habitat Types

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**Aquatic systems:** All water habitats, both flowing and stationary, excluding wetlands.

**Agricultural lands:** Lands devoted to commodity production, including intensively managed nonnative grasses, row crops, fruit and nut-bearing trees.

**Barren lands:** Lands dominated by exposed rock or minerals with sparse vegetation, including *glades*.

**Developed lands:** Highly impacted lands, intensively modified to support human habitation, transportation, commerce, and recreation.

**Forests:** A plant community extending over a large area and dominated by trees, the crowns of which form an unbroken covering layer or canopy.

**Grasslands:** Open area dominated by grass species, for example, prairies or reclaimed minelands.

**Subterranean systems:** Surface openings of subterranean features reaching as far as natural light can penetrate (i.e., twilight zone) and connected underground rooms and passages beyond natural light penetration, including karsts.

**Wetlands:** Area temporarily or permanently flooded, supporting woody and/or herbaceous vegetation.

For which of the following SWAP planning regions do you consider yourself knowledgeable to provide information on the status of, threats to, and relevant conservation actions for fish and wildlife habitats?

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Habitat type:	Proportion of respondents:	N:
Aquatic systems	50.0%	31
Agricultural lands	54.8%	5
Barren lands	8.1%	5
Developed Lands	32.3%	20
Forests	51.6%	32
Grasslands	62.9%	39
Subterranean systems	N/A	N/A
Wetlands	69.4%	43



# *Summary of trends in **habitat** within Kankakee (Region 2)*

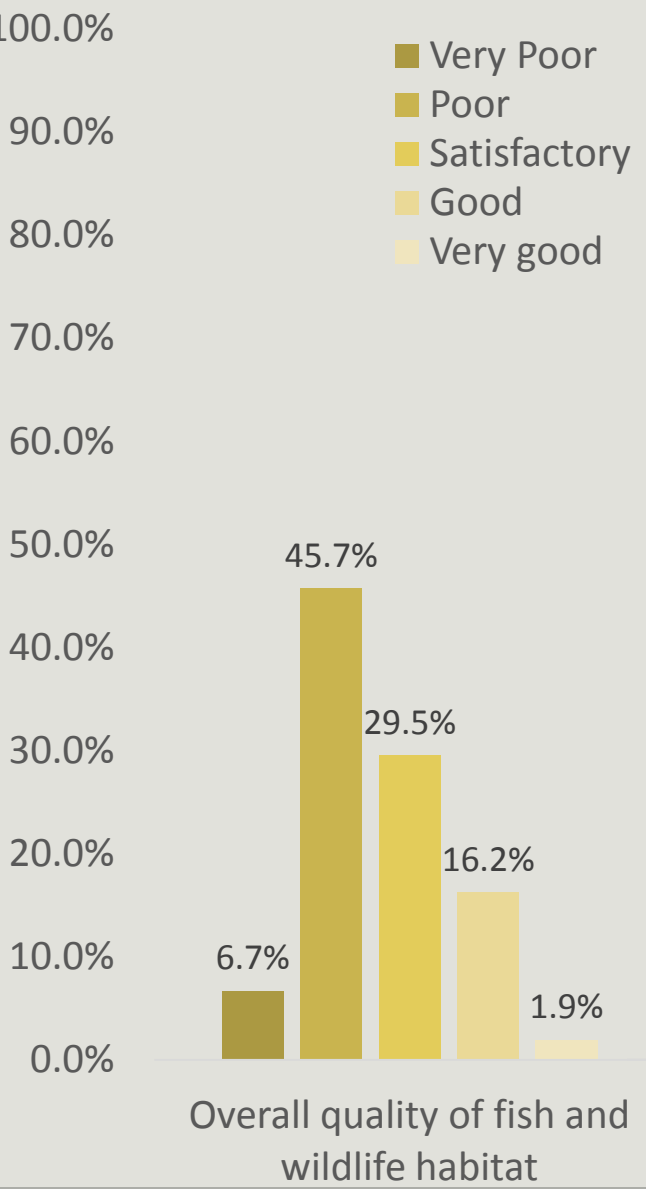
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11. How would you describe the **overall quality** of fish and wildlife habitats within **HABITAT** in the REGION?

12. How would you describe the total amount and overall quality of fish and wildlife habitats within **HABITAT** in the REGION since 2005?

13. How would you predict about the total amount and overall quality of fish and wildlife habitats within **HABITAT** in the REGION over the next 10 years? (Check one for each line item)

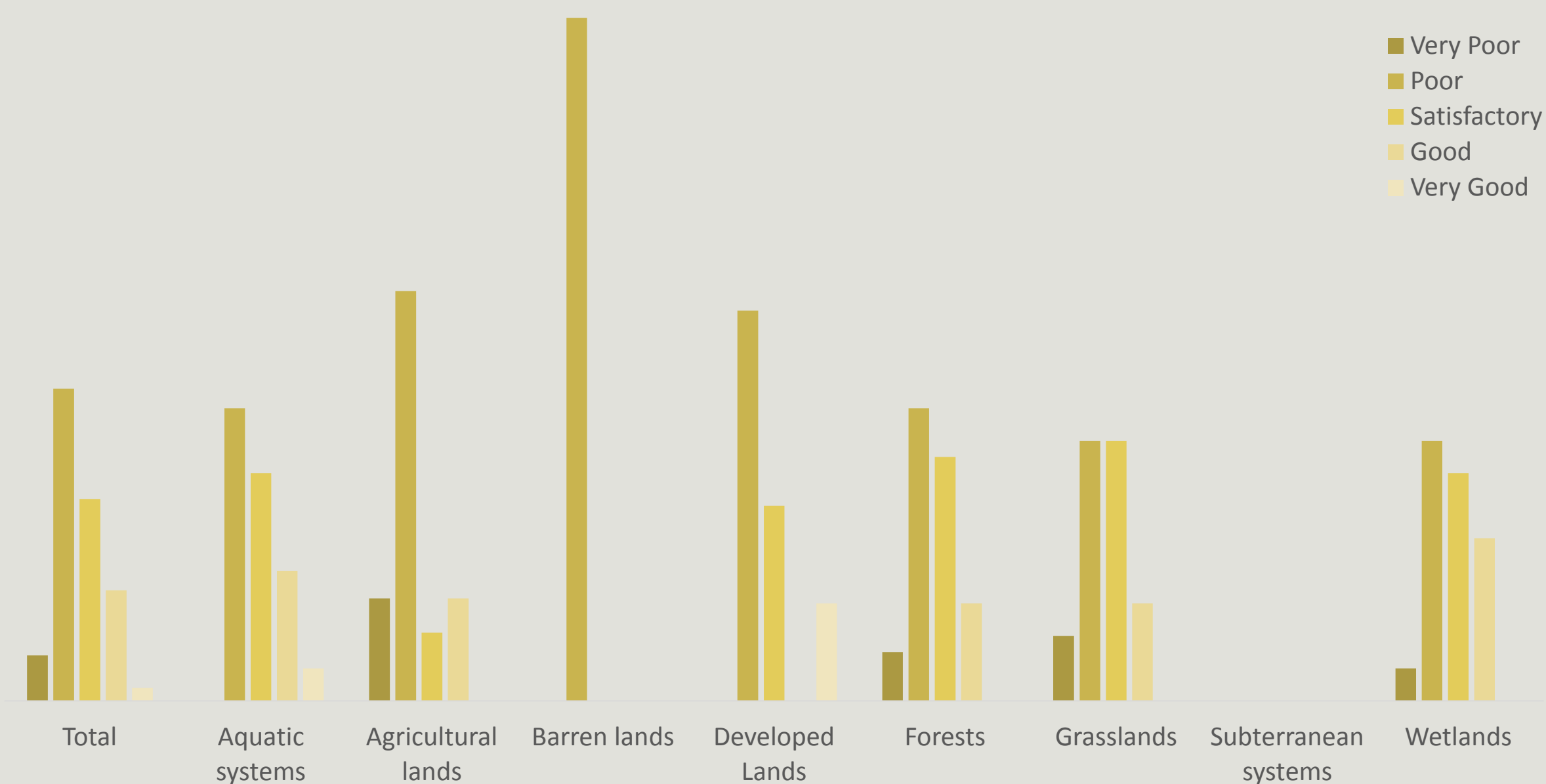
# Summary of Habitat Status in Kankakee (Region 2)



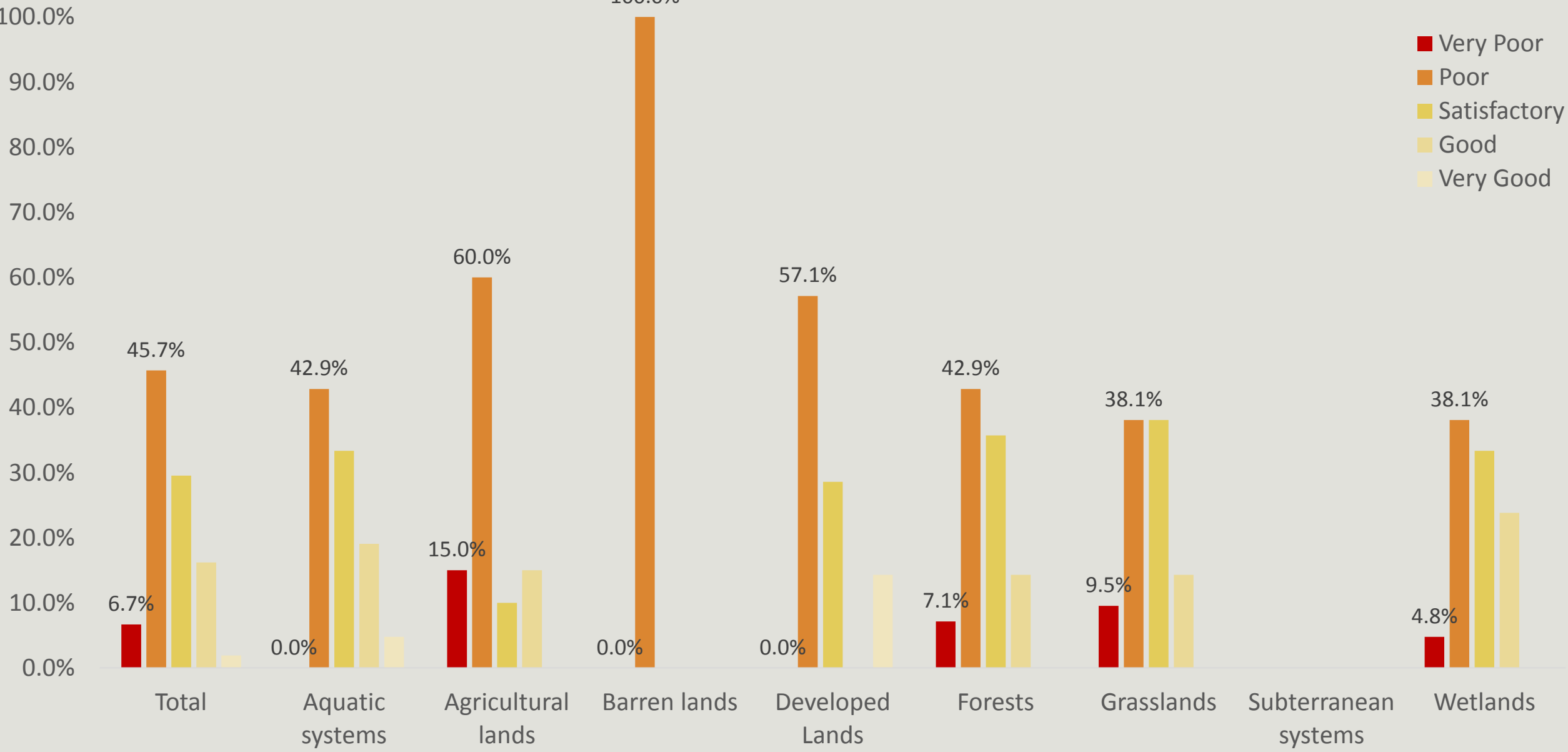
# Overall Quality of Fish and Wildlife Habitats

- Very Poor
- Poor
- Satisfactory
- Good
- Very Good

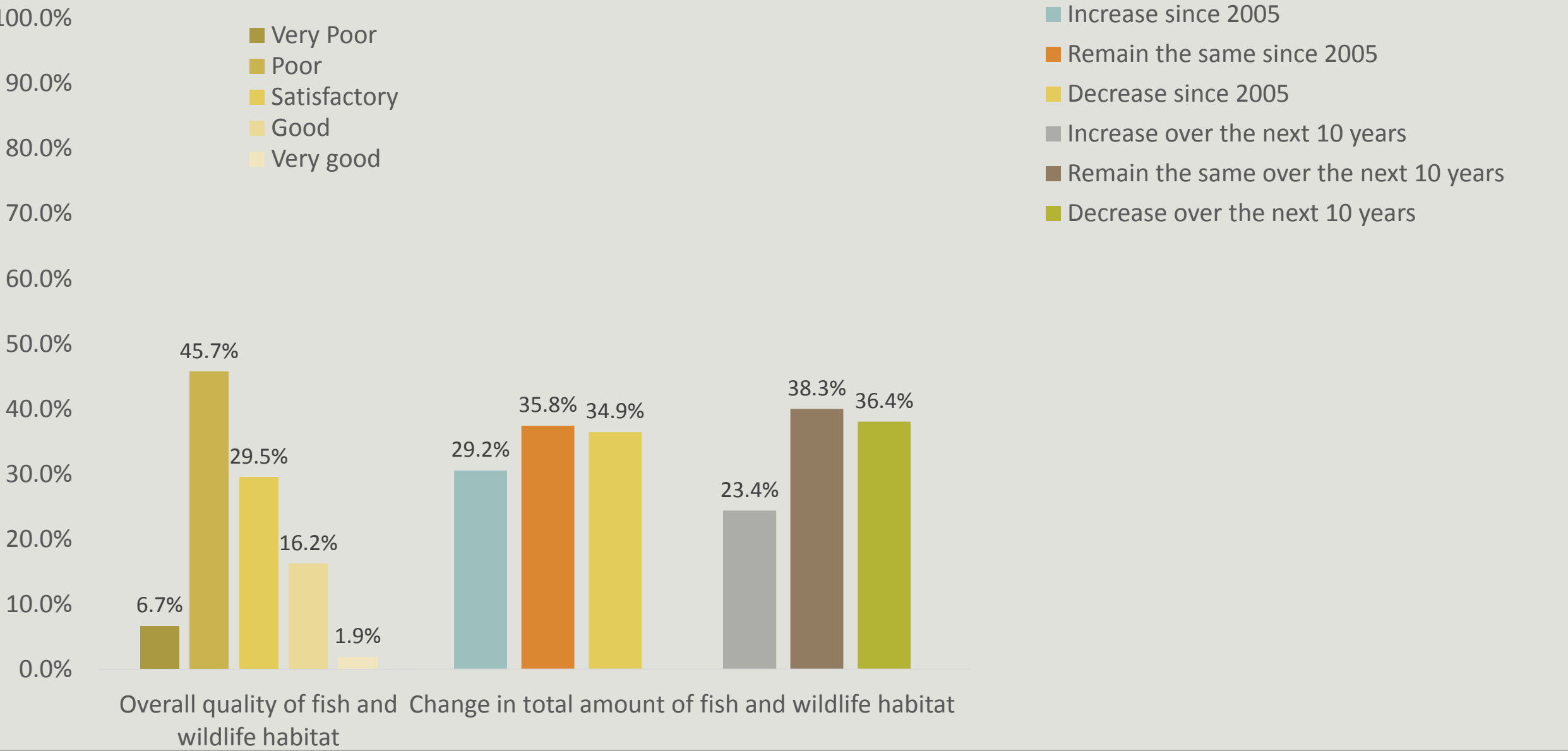
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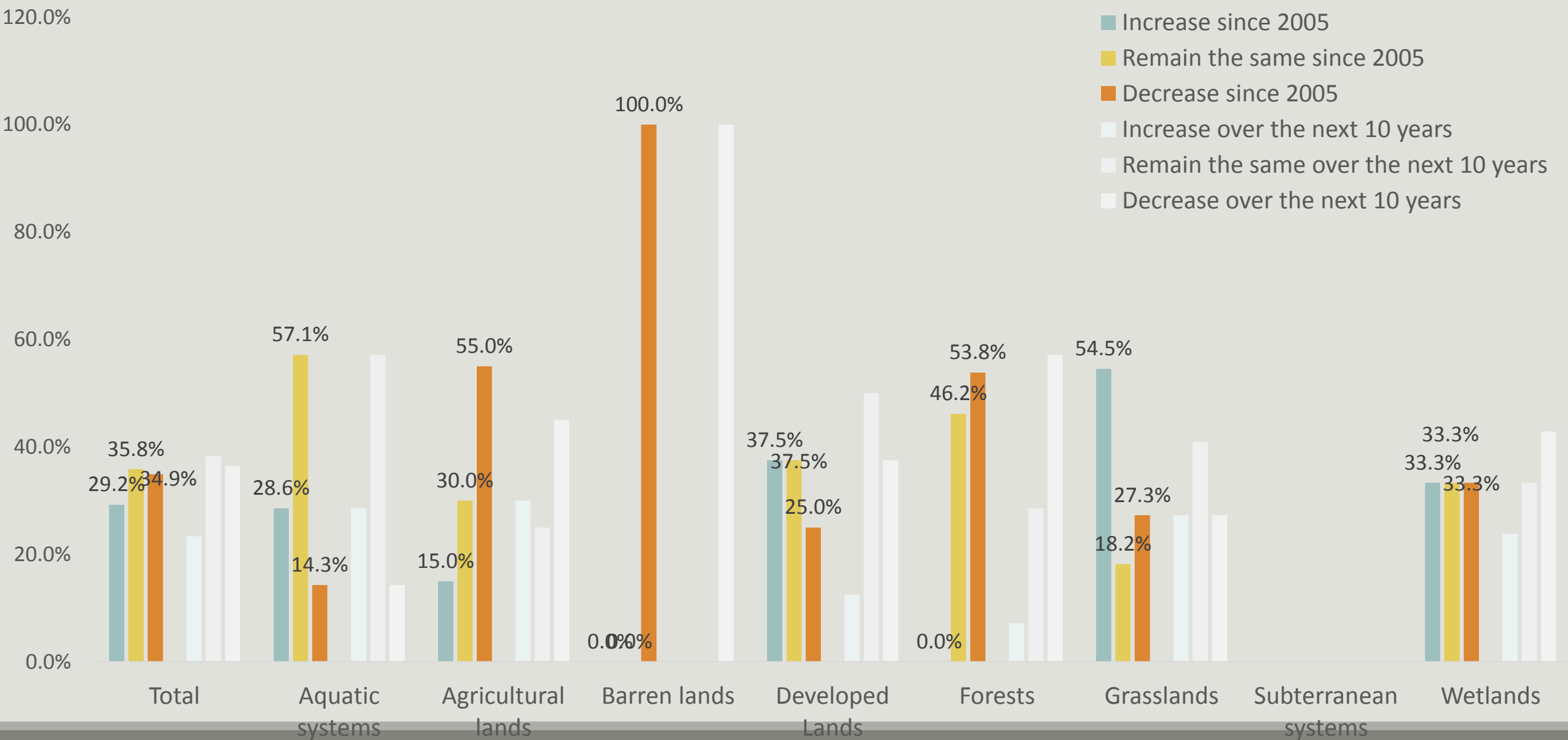
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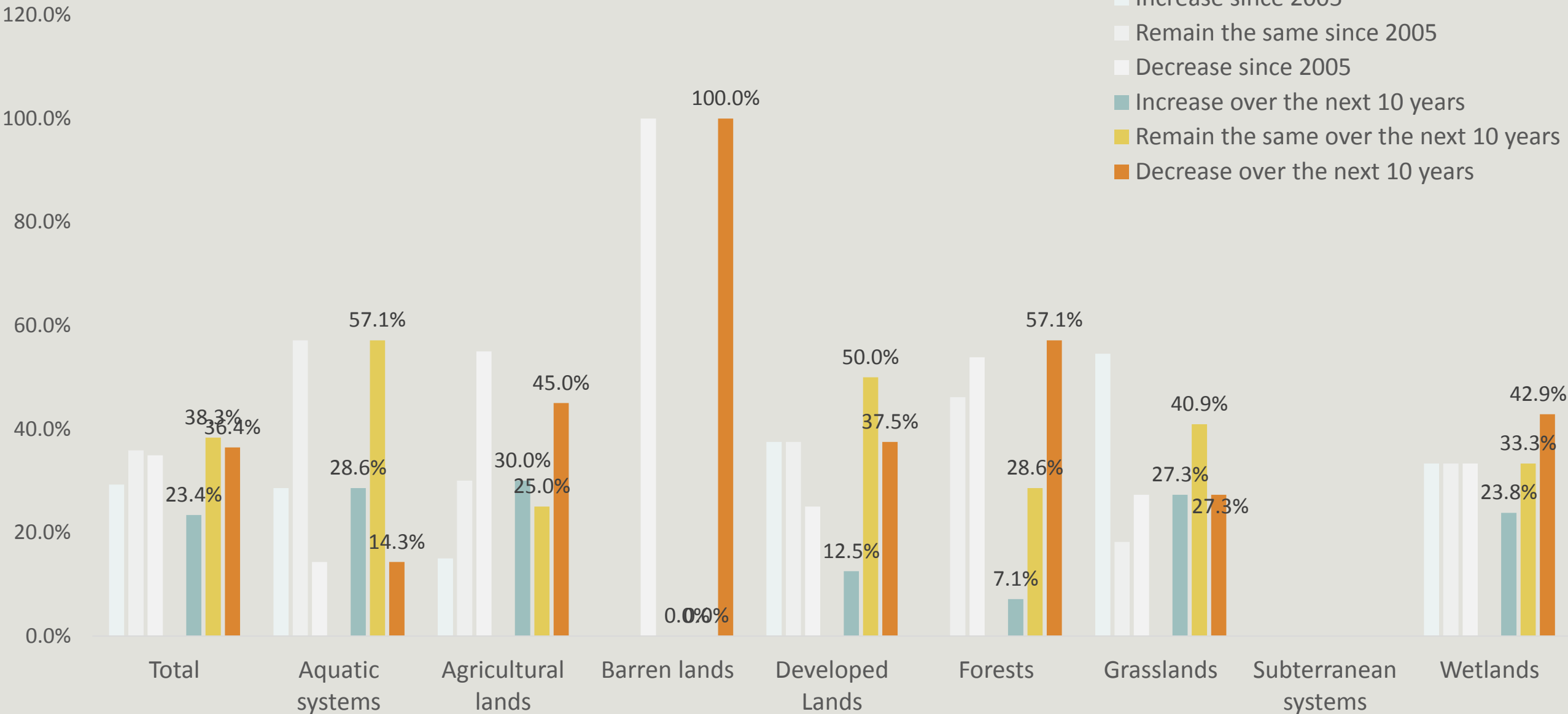
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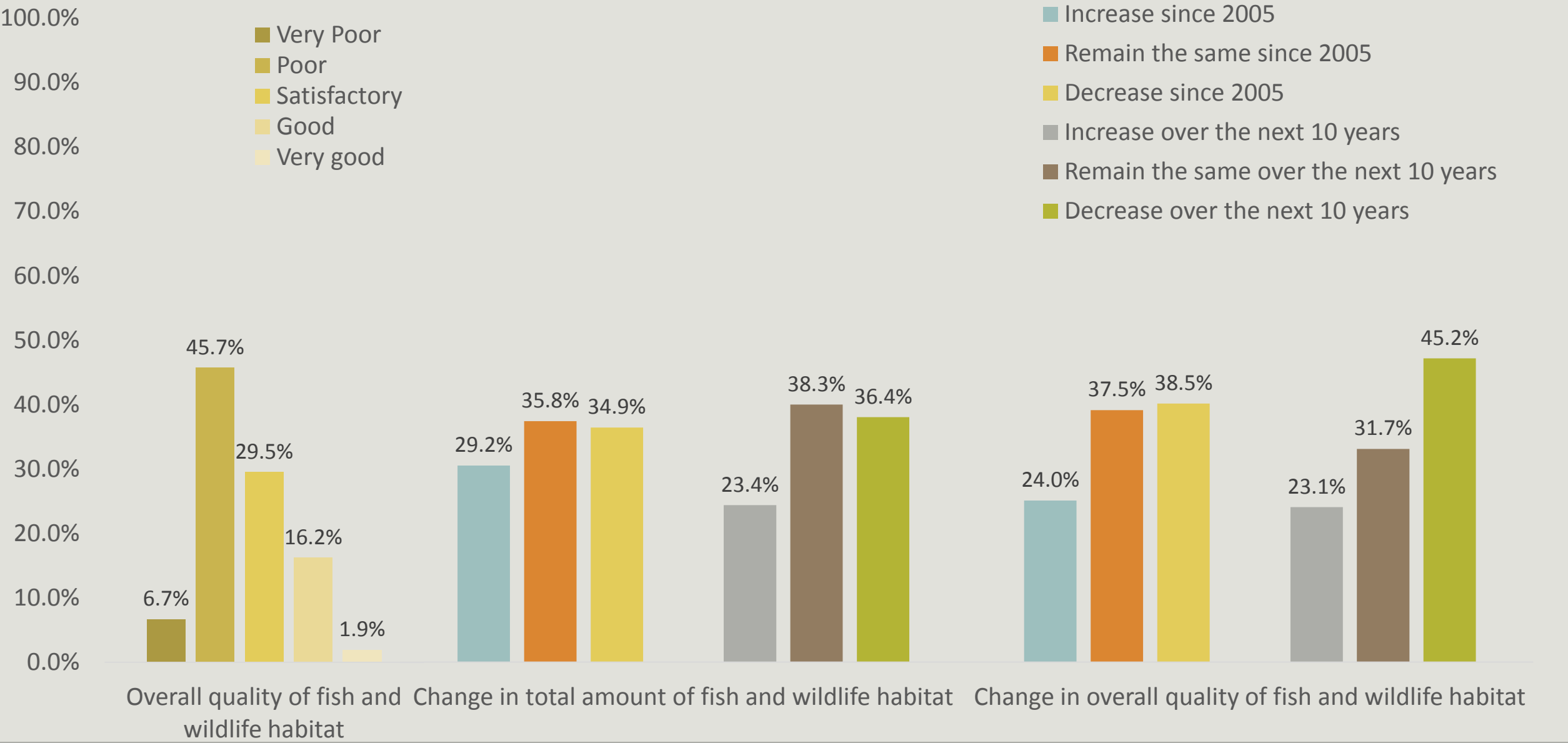
# Total Amount of Habitat Since 2005



## Total Amount of Habitat Over the Next 10 Years

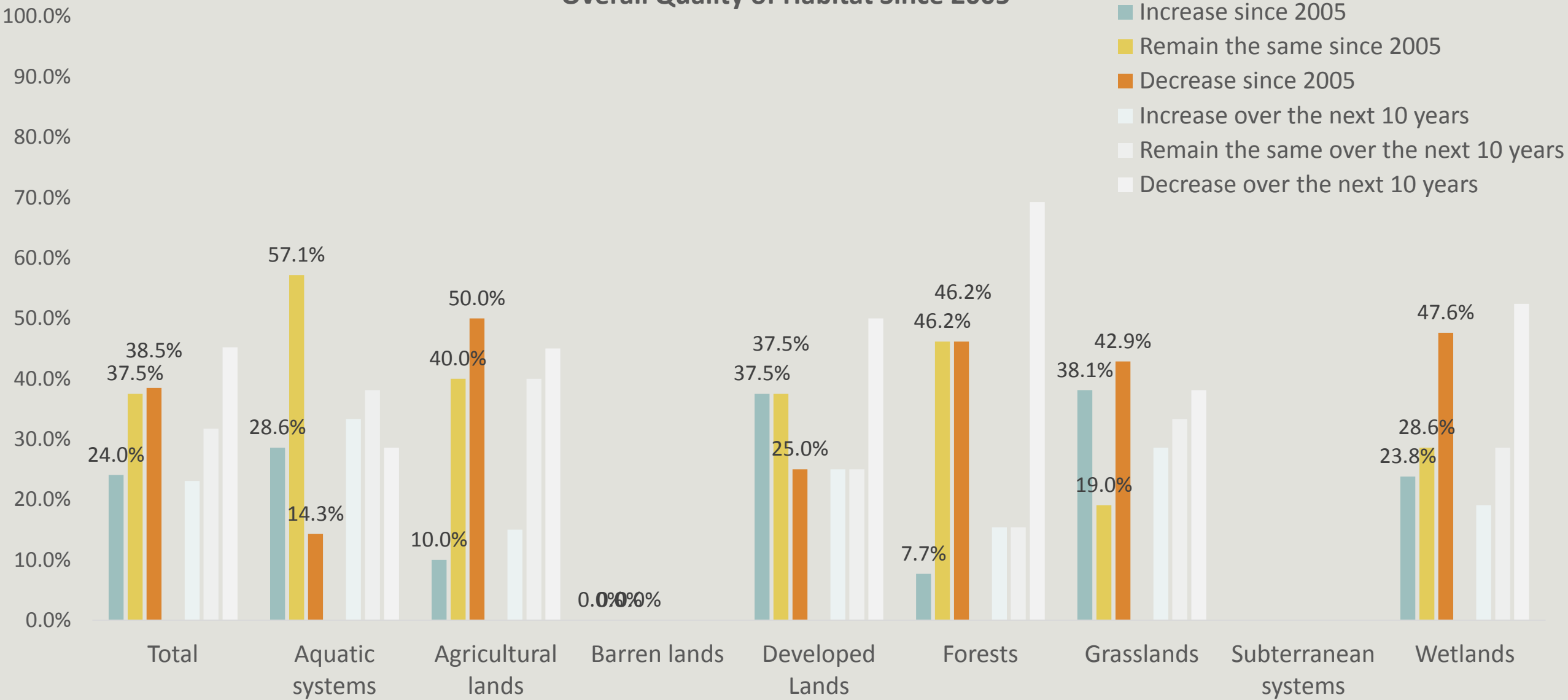


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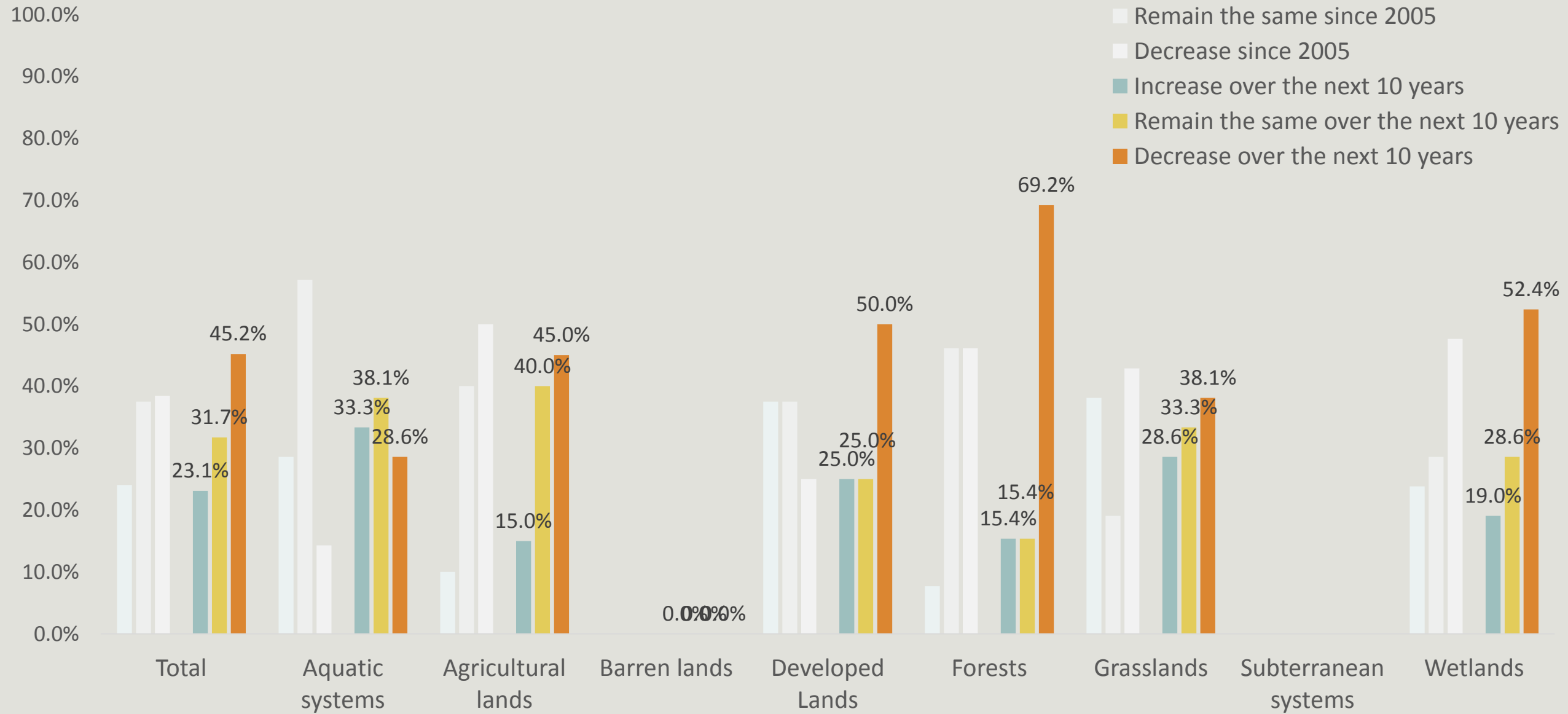




## Overall Quality of Habitat Since 2005



## Overall Quality of Habitat Over the Next 10 Years



# Threats to Habitats in Kankakee (Region 2)

Broad Threat Category



Category Ranking



Specific threats, ranking  
and anticipated changes

Agriculture and  
Aquaculture



Significant Threat



Conversion of habitat to annual crops  
Annual and perennial nontimber crops  
Livestock farming and ranching  
Wood and pulp plantations  
Aquaculture

Energy Production and  
Mining



Moderate Threat



Mining and quarrying  
Fossil fuel energy production  
Oil and gas drilling  
Shale gas development (e.g., fracking)  
Renewable energy production

Residential and  
Commercial Development



Minor Threat



Housing and urban areas  
Commercial and industrial areas  
Tourism and recreation areas (e.g., sites  
with a substantial footprint – golf  
courses, campgrounds, etc.)

Agriculture and  
Aquaculture



Significant Threat



Conversion of habitat to annual crops  
Annual and perennial nontimber crops  
Livestock farming and ranching  
Wood and pulp plantations  
Aquaculture



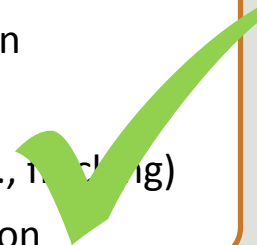
Energy Production and  
Mining



Moderate Threat



Mining and quarrying  
Fossil fuel energy production  
Oil and gas drilling  
Shale gas development (e.g., fracking)  
Renewable energy production



Residential and  
Commercial Development



Minor Threat



Housing and urban areas  
Commercial and industrial areas  
Tourism and recreation areas (e.g., golf courses, campgrounds, etc.)



<b>Threat Category:</b>	<b>Rating as “significant” or “moderate” threat:</b>	<b>N:</b>
Invasives and other problematic species and genes	87.4%	90
Agriculture and aquaculture	86.4%	89
Residential and commercial development	83.3%	85
Natural systems modifications	80.2%	81
Human intrusion and disturbance	74.3%	75
Climate change and severe weather	68.4%	65
Pollution	64.9%	61
Other stressors	53.2%	41
Transportation and service corridors	50.0%	51
Energy production and mining	25.5%	24
Biological resource use	24.5%	24

<b>Threat Category:</b>	<b>Rating as “significant” or “moderate” threat:</b>	<b>N:</b>
Invasives and other problematic species and genes	87.4%	90
Agriculture and aquaculture	86.4%	89
Residential and commercial development	83.3%	85
Natural systems modifications	80.2%	81
Human intrusion and disturbance	74.3%	75
Climate change and severe weather	68.4%	65
Pollution	64.9%	61
Other stressors	53.2%	41
Transportation and service corridors	50.0%	51
Energy production and mining	25.5%	24
Biological resource use	24.5%	24



Threat Category:	Entire Region	Aquatic Systems	Agricultural Lands	Barren Lands	Developed Lands	Forests	Grass-lands	Wet-lands
Invasives and other problematic species and genes	1st	2nd	2nd - Tie	1st - Tie	8th - Tie	1st - Tie	2nd	2nd
Agriculture and aquaculture	2nd	1st	1st	1st - Tie	8th - Tie	4th - Tie	3rd - Tie	1st
Residential and commercial development	3rd	3rd	2nd - Tie	1st - Tie	1st - Tie	1st - Tie	3rd - Tie	4th
Natural systems modifications	4th	7th	2nd - Tie	1st - Tie	1st - Tie	4th - Tie	1st	3rd
Human intrusion and disturbance	5th	5th	6th	1st - Tie	1st - Tie	3rd	6th	6th
Climate change and severe weather	6th	4th	8th	1st - Tie	1st - Tie	7th - Tie	5th	7th
Pollution	7th	6th	2nd - Tie	1st - Tie	1st - Tie	9th	9th	5th
Other stressors	8th	8th	7th	1st - Tie	1st - Tie	7th - Tie	8th	8th
Transportation and service corridors	9th	9th	9th	1st - Tie	1st - Tie	6th	7th	9th
Energy production and mining	10th	10th	10th	1st - Tie	11th	11th	10th	11th
Biological resource use	11th	11th	11th	1st - Tie	10th	10th	11th	10th

Threat Category:	Entire Region	Aquatic Systems	Agricultural Lands	Barren Lands	Developed Lands	Forests	Grass-lands	Wet-lands
Invasives and other problematic species and genes	1st	2nd	2nd - Tie	1st - Tie	8th - Tie	1st - Tie	2nd	2nd
Agriculture and aquaculture	2nd	1st	1st	1st - Tie	8th - Tie	4th - Tie	3rd - Tie	1st
Residential and commercial development	3rd	3rd	2nd - Tie	1st - Tie	1st - Tie	1st - Tie	3rd - Tie	4th
Natural systems modifications	4th	7th	2nd - Tie	1st - Tie	1st - Tie	4th - Tie	1st	3rd
Human intrusion and disturbance	5th	5th	6th	1st - Tie	1st - Tie	3rd	6th	6th
Climate change and severe weather	6th	4th	8th	1st - Tie	1st - Tie	7th - Tie	5th	7th
Pollution	7th	6th	2nd - Tie	1st - Tie	1st - Tie	9th	9th	5th
Other stressors	8th	8th	7th	1st - Tie	1st - Tie	7th - Tie	8th	8th
Transportation and service corridors	9th	9th	9th	1st - Tie	1st - Tie	6th	7th	9th
Energy production and mining	10th	10th	10th	1st - Tie	11th	11th	10th	11th
Biological resource use	11th	11th	11th	1st - Tie	10th	10th	11th	10th

Highest Ranked Threats

Threat Category:	Entire Region	Aquatic Systems	Agricultural Lands	Barren Lands	Developed Lands	Forests	Grass-lands	Wet-lands
Invasives and other problematic species and genes	1st	2nd	2nd - Tie	1st - Tie	8th - Tie	1st - Tie	2nd	2nd
Agriculture and aquaculture	2nd	1st	1st	1st - Tie	8th - Tie	4th - Tie	3rd - Tie	1st
Residential and commercial development	3rd	3rd	2nd - Tie	1st - Tie	1st - Tie	1st - Tie	3rd - Tie	4th
Natural systems modifications	4th	7th	2nd - Tie	1st - Tie	1st - Tie	4th - Tie	1st	3rd
Human intrusion and disturbance	5th	5th	6th	1st - Tie	1st - Tie	3rd	6th	6th
Climate change and severe weather	6th	4th	8th	1st - Tie	1st - Tie	7th - Tie	5th	7th
Pollution	7th	6th	2nd - Tie	1st - Tie	1st - Tie	9th	9th	5th
Other stressors	8th	8th	7th	1st - Tie	1st - Tie	7th - Tie	8th	8th
Transportation and service corridors	9th	9th	9th	1st - Tie	1st - Tie	6th	7th	9th
Energy production and mining	10th	10th	10th	1st - Tie	11th	11th	10th	11th
Biological resource use	11th	11th	11th	1st - Tie	10th	10th	11th	10th

15. You indicated a number of general categories as significant or moderate threats to fish and wildlife habitats within **HABITAT** in Kankakee (Region 2). Please indicate which of the following are specific threats to fish and wildlife habitats within HABITAT in Kankakee (Region 2).

## **Invasives and Other Problematic Species/Genes – 1<sup>st</sup>**

Threats from non-native and native plants, animals, pathogens/microbes, or genetic materials that have or are predicted to have harmful effects on biodiversity following their introduction, spread, and/or increase in abundance

- *Invasive/alien species*

## **Agriculture and Aquaculture – 2<sup>nd</sup>**

*Threats from farming and ranching as a result of agricultural expansion and intensification, including silviculture, mariculture, and aquaculture*

- Conversion of habitat to annual crops
- Annual and perennial nontimber crops

## **Residential and Commercial Development – 3<sup>rd</sup>**

Threats from human settlements or other nonagricultural land uses with a substantial footprint

- *Housing/Urban areas*
- *Commercial and industrial areas*

## **Natural Systems Modification – 4<sup>th</sup>**

Threats from human activities that alter, destroy, and disturb habitats and species associated with nonconsumptive uses of biological resources

- *Conversion of natural habitats to other land uses*

## **Human intrusions and disturbance – 5<sup>th</sup>**

Threats from human activities that alter, destroy, and disturb habitats and species associated with nonconsumptive uses of biological resources.

- *Recreation activities (e.g., ATVs, trail use, horseback riding, high-speed boating, canoeing)*

## **Climate change and severe weather – 6<sup>th</sup>**

Long-term climactic changes that may be linked to global warming and other severe climactic or weather events outside the natural range of variation that could wipe out vulnerable species or habitat.

- *Shifting and alteration of habitats due to climate change*
- *Changing frequency, duration, and intensity of drought*
- *Temperature extremes*
- *Changing frequency, duration, and intensity of floods*
- *Shifting seasons/phenology*

## **Pollution – 7<sup>th</sup>**

*Threats from introduction of exotic and/or excess materials or energy from point and nonpoint sources*

- Runoff from roads/service corridors
- Agriculture, residential, and forestry effluents
- Household sewage and urban water waste
- Point source pollution from commercial/industrial sources

## **Other stressors – 8<sup>th</sup>**

Additional threats and stressors directly affecting habitats, such as diseases and genetic diversity issues

- *Diseases*

## **Transportation and Service Corridors – 9<sup>th</sup>**

Threats from long, narrow transport corridors and the vehicles that use them, including associated wildlife mortality

- *Roads and railroads*



## **Energy production and mining – 10<sup>th</sup>**

*Threats from production of nonbiological resources*

## **Biological Resource Use – 11<sup>th</sup>**

*Threats from consumptive use of “wild” biological resources including deliberate and unintentional harvesting effects; also persecution or control of specific species*

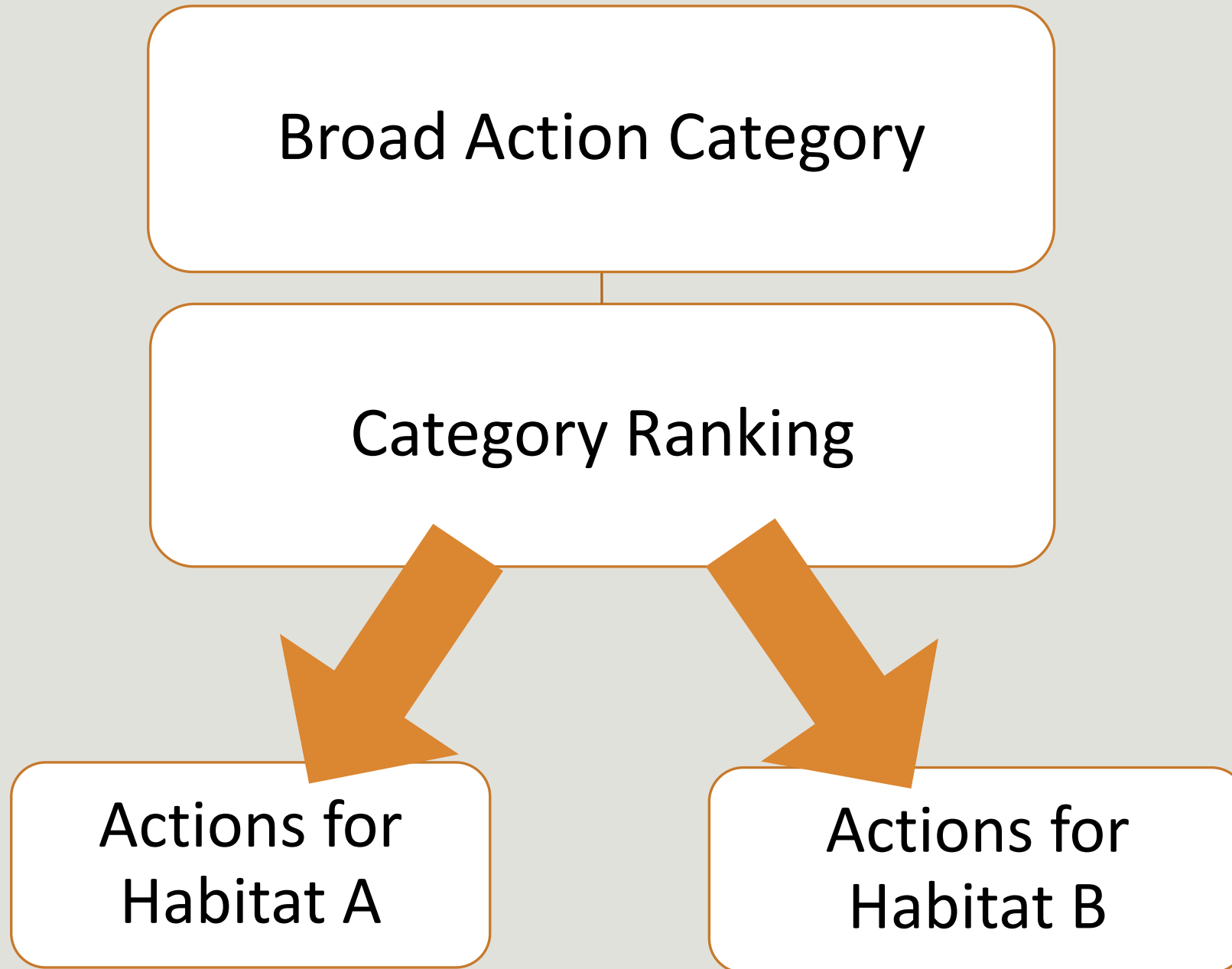
# Conservation Actions for Habitats in Kankakee (Region 2)

Broad Action Category

Category Ranking

Actions for  
Habitat A

Actions for  
Habitat B



17. Please indicate the importance of the following general categories of conservation actions for fish and wildlife habitats within **HABITAT** in Kankakee (Region 2) over the next 10 years

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Action Category:	Rating as “very important” or “moderately important”:	N:
Land/water/species management	97.1%	99
Land/water protection	93.1%	95
Education and awareness	89.3%	92
Law and policy	87.6%	85
Livelihood, economic, and other incentives	82.1%	78
External capacity building	74.4%	67

	Entire Region	Aquatic Systems	Agricultural Lands	Barren Lands	Developed Lands	Forests	Grass- lands	Wet- lands
Land/water/species management	1st	1st	1st	1st - Tie	6th	1st - Tie	1st	1st - Tie
Land/water protection	2nd	2nd	4th	1st - Tie	1st - Tie	4th	2nd	1st - Tie
Education and awareness	3rd	4th	2nd	1st - Tie	1st - Tie	3rd	3rd	3rd
Law and policy	4th	3rd	5th	1st - Tie	1st - Tie	1st - Tie	4th	4th
Livelihood, economic, and other incentives	5th	5th	3rd	1st - Tie	1st - Tie	5th	5th	5th
External capacity building	6th	6th	6th	1st - Tie	1st - Tie	6th	6th	6th





17. Considering your responsibility within your agency/organization, please indicate whether you have taken a general category of conservation actions for fish and wildlife habitats within **HABITAT** in Kankakee (Region 2) since 2005 or have plans to do so.

Threat Category:	Rank	Yes		No	
		%	N	%	N
Land/water/species management	1st	96.0%	72	4.0%	3
Land/water protection	2nd	82.6%	57	17.4%	12
Education and awareness	3rd	91.7%	66	8.3%	6
Law and policy	4th	44.4%	24	55.6%	30
Livelihood, economic, and other incentives	5th	46.3%	25	53.7%	29
External capacity building	6th	51.0%	26	49.0%	25



18. Please indicate the importance of the following specific conservation actions within these general categories for fish and wildlife habitats within HABITAT in Kankakee (Region 2).

## **Land/Water/Species Management – 1<sup>st</sup>**

Actions directed at conserving or restoring sites, habitats, and the wider environment as well as actions directed at managing or restoring species, focused on the species of concern itself.

- *Control invasive species in HABITAT*
- *Protect adjacent buffer zones*
- *Reduce losses of fish and wildlife habitats (due to agriculture, urban sprawl, commercial development, etc.)*
- *And many others...*

## **Land/Water Protection – 2<sup>nd</sup>**

Actions to identify, establish, or expand parks and other legally protected areas, and to protect resource rights

- *Preserve currently existing corridors*
- *Acquire currently unprotected HABITAT*

## **Education and Awareness – 3<sup>rd</sup>**

Actions directed at people to improve understanding and skills, and influence behavior.

- *Educational programs in general*
- *Educational programs specifically for K-12*

## **Law and policy – 4<sup>th</sup>**

Actions to develop, change, influence, and help implement formal legislation, regulations, and voluntary standards.

- *Improve compliance with and enforcement of current policies*
- *Increase regulations on invasive species*
- *Reduce urban sprawl through planning and zoning*

## **Livelihood, economic, and other incentives – 5<sup>th</sup>**

Actions to use economic and other incentives to influence behavior

- *Manage recreational opportunities to be compatible with fish and wildlife habitats*
- *Promote nonmonetary values of natural systems within the state*
- *Support substitution of alternatives for environmentally harmful products and processes*

## **External capacity building – 6<sup>th</sup>**

Actions to build the infrastructure to do better conservation

- *Promote use of research and science in conservation decision-making processes*
- *Develop alliances and partnerships (e.g., between producers, landowners, and conservation professionals)*
- *Strengthen conservation financing*



The diagram consists of two large, white, arrow-shaped boxes pointing towards each other, meeting at a central point. The left arrow points right and contains the word "Threats". The right arrow points left and contains the words "Conservation Actions". Both arrows have a thin brown outline. The background is a solid light gray.

**Threats**

**Conservation  
Actions**